

The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

Listing of The Claims:

1. (Currently amended) A nucleic acid molecule comprising:

a first nucleic acid sequence comprising an aptamer covalently linked to a second nucleic acid sequence comprising a biological effector sequence, ~~wherein the binding of said aptamer to a cell surface molecule permits the internalization by said cell of said nucleic acid sequence comprising a biological effector sequence~~ wherein the aptamer binds to a cell surface molecule, and wherein said biological effector sequence is not an aptamer.
2. (Currently amended) A nucleic acid molecule comprising:

a first nucleic acid sequence comprising an aptamer linked via Watson-Crick base pairing to a second nucleic acid sequence comprising a biological effector sequence, ~~wherein the binding of said aptamer to a cell surface molecule permits the internalization by said cell of said nucleic acid sequence comprising a biological effector sequence~~ wherein the aptamer binds to a cell surface molecule, and wherein said biological effector sequence is not an aptamer.
3. (Currently amended) The nucleic acid molecule of claim 1 or 2, further comprising a third nucleic acid sequence which is an aptamer that is covalently linked to said nucleic acid molecule.
4. (Currently amended) The nucleic acid molecule of claim 1 or 2, further comprising a third nucleic acid sequence which is an aptamer that is linked via Watson-Crick base pairing to said nucleic acid molecule.
5. (Currently amended) The nucleic acid molecule of claim 3 wherein said third nucleic acid sequence comprises an aptamer that is different from said first nucleic acid comprising an aptamer.

6. (Currently amended) The nucleic acid molecule of claim 4 wherein said third nucleic acid sequence comprises an aptamer that is different from said first nucleic acid sequence comprises an aptamer.
7. (Currently amended) The nucleic acid molecule of claim 1 or 2, comprising DNA and RNA.
8. (Currently amended) The nucleic acid molecule of claim 1 or 2, wherein said biological effector sequence encodes a polypeptide or polynucleotide.
9. (Currently amended) The nucleic acid molecule of claim 1 or 2, wherein said biological effector sequence comprises a messenger RNA.
10. (Currently amended) The nucleic acid molecule of claim 8, wherein the coding sequence of said biological effector sequence comprises double-stranded DNA, and wherein said biological effector sequence comprises a promoter.
11. (Currently amended) The nucleic acid molecule of claim 1 or 2, wherein said biological effector sequence comprises an antisense sequence.
12. (Currently amended) The nucleic acid molecule of claim 1 or 2, wherein said biological effector sequence comprises a nucleic acid enzyme.
13. (Original) A nucleic acid molecule comprising a template for the assembly of the molecule of claim 1.
14. (Original) A cloning vector comprising the molecule of claim 1.
15. (Original) A cloning vector comprising the molecule of claim 11.
16. (Original) A composition comprising the molecule of claim 1 or 2 and a biologically acceptable carrier.
17. (Currently amended) A composition comprising an admixture of a nucleic acid molecule of claim 1 or 2 and a cell in vitro that bears a target molecule for said aptamer.

18. (Currently amended) A cell transfected in vitro with a nucleic acid molecule, wherein the nucleic acid molecule is chosen from the group: a nucleic acid molecule of claim 1 or 2, a molecule of claim 13, a vector of claim 14, and a vector of claim 15.

19. (Currently amended) A method of introducing a biological effector sequence into a cell comprising contacting the nucleic acid molecule of claim 1 or 2 in vitro with a host cell, wherein said aptamer of said nucleic acid molecule of claim 1 or 2 binds to a cell surface molecule of said host cell and permits the internalization of said biological effector sequence, whereby said biological effector sequence is internalized by said host cell.

20. (Cancelled) A method of introducing a biological effector sequence into a cell using the molecule of claim 1 or 2, comprising administering said molecule to an organism comprising said cell, wherein upon binding of the aptamer of said molecule of claim 1 or 2 to a molecule on the surface of said cell, said biological effector sequence is internalized by said cell.

21. (Cancelled) A method of introducing a biological effector sequence into a cell comprising administering to an organism the composition of claim 16, wherein the aptamer of said bifunctional molecule of said composition of claim 16 binds to a molecule on the surface of said cell, and permits the internalization of said biological effector sequence, and wherein the biological effector sequence of said bifunctional molecule of said composition of claim 16 is internalized by said cell.

22. (Currently amended) A method of introducing a biological effector sequence into an organism, comprising:

introducing a biological effector sequence into a host cell by contacting the nucleic acid molecule of claim 1 or 2 in vitro with said host cell, wherein the aptamer of said nucleic acid molecule of claim 1 or 2 binds to a molecule on the surface of said host cell and permits the internalization of said biological effector sequence, wherein said biological effector sequence of said nucleic acid molecule

of claim 1 or 2 is internalized by said host cell; and administering said host cell to the organism.